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International Specialists in the Environment

JUN - 6 1991
SUPERIOR SERVING

MEMORANDUM

DATE: June 3, 1991

FOR: Neil Thompson, HWD-PO, USEPA, Region 10

THRU: Alexander Whitman, Program Manager, E & E,

FROM: David A. Ikeda, Chemist, E & E, Seattle Lila Transue, Senior Chemist, E & E, Seattle

SUBJ: Data Validation Summary Check Colbert Landfill

REF: Contract Number 68-W9-0020 Work Assignment No. 20-05-0P15

CC: Barry Towns, Quality Assurance Officer, USEPA, Region 10
Carolyn Wilson, RSCC, USEPA, Region 10
Gerald Muth, CLP-TPO, USEPA, Region 10 Laboratory, Manchester
Lyle Diediker, Project Manager, E & E, Seattle

Comparison of the data validation summary for five water samples with the corresponding FORM I's has been completed. The samples were numbered:

No discrepancies were noted.

DI:rls

Attachment

USEPA SF 1407130

ENVIRONMENTAL SERVICES ASSISTANCE TEAM - ZONE II

ICF Technology Incorporated

NSI Technology Services Corporation

The Bionetics Corporation

ESAT Region X The Bionetics Corporation 7411 Beach Drive East Port Orchard, WA 98366 (206) 871-0748

MEMORANDUM

DATE:

April 26, 1991

TO:

Neil Thompson, Project Officer, USEPA, Region 10

FROM:

Gerald H. Dodo, Senior Chemist, ESAT, Region 10

THROUGH: Joe Blazevich, Chief, GC/MS Section, USEPA, Region 10

Bill Scheidler, ESAT Team Manager, ESAT, USEPA, Region 10

SUBJECT: Report of GC/MS Data Validation for Colbert Landfill VOA Analyses

TID Number: 10-1901-536

Document No: ESAT-10A-291

CC:

Carchin Wilson, RSCC, USEPA, Region 10 Gerald Muth, DPO, USEPA, Region 10 Bruce Woods, Chemist, USEPA, Region 10 Bob Melton, Chemist, USEPA, Region 10

The following is a QA data review of the VOA analyses of five water samples collected at the Colbert Landfill site and performed at the Manchester Laboratory. This review covers the following samples:

91122000

91122001

91122002

91122003

91122004

The project code for these samples is TEC-512C and the account number is TFA10PU01.



DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in the "CLP Statement of Work, Organic Analysis, revision 2/88".

I. Holding Times: Acceptable.

All water samples were analyzed within 14 days of the sampling date which is within 40 CFR 136 holding time limit for preserved waters. In no case did the "Chain of Custody" sheets indicate the presence or absence of preservatives. It was therefore assumed that the samples were collected according to Region 10 policy and preserved at the time of collection.

GC/MS Tuning and Performance: Acceptable.

All sample analyses were preceded by a bromofluorobenzene tune less than 12 hours prior to the analysis. All tuning summaries agreed with the raw data and in each case the bromofluorobenzene ion abundances met the appropriate criteria.

III. Initial Calibration: Acceptable.

An initial calibration was performed on 4/01/91. All target compounds displayed relative response factors (RRF) that exceeded the minimum acceptable level of 0.05 and % RSD's were within the acceptable limit of 30 %.

IV. Continuing Calibration: Acceptable.

A continuing calibration was performed each day of the analysis as specified in the SOW. All targets displayed RRFs above the acceptable level of 0.050 in all continuing calibrations. No restriction was placed on the data based on %D criteria.

No additional qualifiers were required based on the continuing calibrations.

V. Blanks:

A blank accompanied each analysis day. Target compounds found in the blanks are summarized in tabular form below. None of these targets were reported in any of the associated samples unless the sample concentration for the analyte exceeded that in the blank by more than five-fold for most targets and ten-fold for common laboratory contaminants.

Target Compound	A91BW1092 (UG/L)	A91BW1093 (UG/L)	
Chloromethane Dichlorodifluoromethane Methylene Chloride Acetone	0.06 0.02 3 2	1	590
Carbon Disulfide 2-Butanone Toluene 1,2,4-Trichlorobenzene	0.01 0.5 0.02 0.08	0.06	

VI. Surrogates: Acceptable.

All percent recoveries of the surrogates set forth in Form II of the SOW were met. No qualifiers were placed on any results based on surrogate recoveries.

VII. Matrix Spike/ Matrix Spike Duplicate:

A Matrix Spike/ Matrix Spike Duplicate were run on one of the samples. All percent recovery and relative percent difference criteria set forth in Form III of the SOW for water samples were met except for toluene in the matrix spike duplicate. The recovery for toluene from the matrix spike duplicate analysis is 74 % however the criterion stated in Form III of the SOW is a 76 % minimum recovery. No data restrictions were placed on the data based solely on MS/MSD results.

VIII. Internal Standards Performance: Acceptable

The retention time of all internal standards were within 30 seconds of the continuing calibration standards. All internal standards displayed area counts that fell within the specified range of 50 % to 200 % of the associated daily calibration. No restrictions were placed on the data based on internal standard results.

IX. TCL Compound Identification: Acceptable.

All TCL compounds displayed relative retention times that were within 0.06 units of the related standard in the continuing calibration. All criteria were met for mass spectral ion matching and ion abundance matching. No additional qualifiers were needed on the basis of compound identification.

X. Compound Quantitation: Acceptable.

Compound quantitation was evaluated correctly. The appropriate internal standards were used. The correct quantitation ions and relative response factors were used. No additional qualifiers were needed on the basis of compound quantitation.

Tentatively Identified Compounds: Acceptable.

The spectra for all tentatively identified compounds met criteria for ion matching and ion abundance matching.

XII. Overall Assessment for the Case.

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Function Guidelines for Evaluating Organics Analyses" (2/1988).

All of the requirements for data qualifiers from the preceding sections (I - XI) were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

In general, all unqualified data can be used without restriction. The usefulness of qualified data should be treated according to the severity of the qualifier. Each qualifier has been defined below. Should question arise regarding the qualification of data and its relation to the usefulness, the reader is encouraged to contact the Region 10 laboratory, or the data reviewer.

DATA QUALIFIERS

- The analyte was analyzed for but not detected at or above the reported value.
- The analyte was analyzed for, and positively identified. The associated numerical value is an estimate only.
- Rej The data are <u>unusable</u> for all purposes. The analyte was analyzed for, but the presence of the analyte has not been verified.
- There is presumptive evidence the compound is present in this sample.
- NJ There is <u>presumptive evidence</u> that the analyte is present. The associated numerical value is an estimate.
- UJ The analyte was analyzed for but not detected at or above the reported estimated value.
- NAR No analytical result.
- EXP The value is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3 x 10⁶.
- The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet).

Project: TEC-512C COLBERT LANDFILL

Laboratory: EPA, Manchester

Sample No: 91 122000

1,3,5-Trimethylbenzene

Description: EFFLUENT 1

Begin Date: 91/03/20 09:45

Source: Well (Test/Observation)

Officer: NET

VOA - PP Scan (GCMS)	Water-T Result		VOA - PP Scan (GCMS) *** Continued	Water-T	otal
			+	Result	Units
Carbon Tetrachloride	1 U	ug/1			
Acetone	1 U	ug/1	Bromobenzene	1 U	ug/1
Chloroform	1 U	ug/1	Toluene	1 U	ug/1
Benzene	1 U	ug/1	Chlorobenzene	1 U	ug/1
l, l, l-Trichloroethane	1 U	ug/1	1,2,4-Trichlorobenzene	1 0	ug/1
Bromomethane	1 U	ug/1	Dibromochloromethane	1 U	ug/1
Chloromethane	1 U	ug/1	Tetrachloroethene	1 U	ug/1
Dibromomethane	1 U	ug/1	Sec-Butylbenzene	1 U	ug/l
Bromochloromethane	1 U	ug/1	1,3-Dichloropropane	1 U	
Chloroethane	1 U	ug/l	Cis-1,2-Dichlorosthene	5030	ug/1
Vinyl Chloride	1 U	ug/1	trans-1,2-Dichloroethe+	1 U	ug/1
Methylene Chloride	3 U	ug/1	1,3-Dichlorobenzene	1 U	ug/1
Carbon Disulfide	1 0	ug/1	1 1 Dichierobenzana	10	ug/1
Bromoform	1 0	ug/1	1,1-Dichloropropene	1 U	ug/1
Bromodichloromethane	1 U		2,2-Dichloropropane	1 U	ug/1
1,1-Dichlorosthans	1 0	ug/l ug/l	2-Hexanone	1 U	ug/1
1,1-Dichloroethene	10		Ethane, 1,1,1,2-Tetrac+	1 U	ug/1
Trichlorofluoromethane	10	ug/1	Total Xylenes	1 U	ug/1
dethane, Dichlorodiflu+	10	ug/1	cis-1,3-Dichloropropens	1 U	
1,2-Dichloropropane	1 0	ug/1	trans-1,3-Dichloroprop+	10	
2 - Butanone	10	ug/1	p-Bromofluorobenzene	98	
1,1,2-Trichloroethane	10	ug/1	Surrog: 1-Bromo-2-Fluo+		Z Recov
Frichloroethene		ug/1	d8-Toluene	103	
ETHANE, 1,1,2,2-TETRAC+	1 U	ug/1	d4-1,2-Dichloroethane	100	7 Recov
1,2,3-Trichlorobenzene	1 0	ug/1			
dexachlorobutadiene	1 U	ug/l	†		
Vaphthalene	10	ug/1	Tent Ident - VOA Sca	Water-T	
2-Chlorotoluene	10	ug/1		Result	Units
1,2-Dichlorobenzene	10	ug/1	÷		
1,2,4-Trimethylbenzene	10	ug/1	UNKNOWNS (TOTAL)	0.25NJ*	ug/1
DBCP	1 U	ug/1			-3-7
	1 U	ug/1			
1,2,3-Trichloropropane	10	ug/1			
ert-Butylbenzene	1 U	ug/1			
Isopropylbenzene (Cume+	1 U	ug/l			
-Isopropyltoluene	1 U	ug/l			
BENZENE, ETHYL-	1 U	ug/1		X	
BENZENE, ETHENYL-(STYR+	1 U	ug/1		-//	H
ENZENE, PROPYL-	1 U	ug/1		(/\	X
Sutylbenzene	1 U	ug/1		4	10
-Chlorotoluene	1 U	ug/1		~	12219
,4-Dichlorobenzene	1 U	ug/1		6	120
, 2-Dibromoethane (EDB)	1 U	ug/1		9	
,2-Dichlorosthane	1 U	ug/1			
-Methyl-2-Pentanone	1 U	ug/1 .			
1.3.5-Trimethylhanzana	1.11				

1U ug/1

(Sample Complete)

ecycled pa

Acetone

Benzene

Chloroform

Bromomethane

Chloromethane

Chloroethane

Bromoform

2-Butanone

Naphthalene

DBCP

Dibromomethane

Vinyl Chloride

Bromochloromethane

Methylene Chloride

Bromodichloromethane

Trichlorofluoromethane

1,1,2-Trichloroethane

ETHANE, 1,1,2,2-TETRAC+

1,2,3-Trichlorobenzene

Hexachlorobutadiene

1,2-Dichlorobenzene

Tert-Butylbenzene

p-Isopropyltoluene

1,4-Dichlorobenzene

1,2-Dichloroethane

4-Methyl-2-Pentanone

1,3,5-Trimethylbenzene

BENZENE, ETHYL-

BENZENE, PROPYL-

4-Chlorotoluene

Butylbenzene

1,2,4-Trimethylbenzene

1,2,3-Trichloropropane

Isopropylbenzene (Cume+

BENZENE, ETHENYL-(STYR+

1,2-Dibromoethane (EDB)

Methane, Dichlorodiflu+

1,1-Dichloroethane

1,2-Dichloropropane

Trichloroethene

2-Chlorotoluene

1,1-Dichloroethene

Carbon Disulfide

Officer: NET

Source: Well (Test/Observation)

Account: FA10PU01

Project: TEC-512C COLBERT LANDFILL

Laboratory: EPA, Manchester

Sample No: 91 122001

VOA - PP Scan (GCMS)

Carbon Tetrachloride

1,1,1-Trichloroethane

Description: EFFLUENT 2

Water-Total Result Units

1 11

1 U

1 11

1 U

1 U

1 U

1 U

1 U

1 U

1 U

3 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 11

1 U

1 U

1 U

1 U

1 U

1 U

1 U

10

1 U

1 U

1 U

1 U

1 U

ug/1

Begin Date: 91/03/20 09:45

VOA - PP Scan (GCMS)	Water-T	otal
*** Continued		
	Result	Units
Bromobenzene	1 U	ug/1
Toluene	1 U	ug/1
Chlorobenzene	1 U	ug/1
1,2,4-Trichlorobenzene	1 U	ug/1
Dibromochloromethane	1 U	ug/1
Tetrachloroethene	1 U	ug/1
Sec-Butylbenzene	1 U	ug/1
1,3-Dichloropropane	1 U	ug/1
Cis-1,2-Dichloroethene	1 U	ug/1
trans-1,2-Dichloroethe+	1 U	ug/1
1,3-Dichlorobenzene	1 U	ug/1
1,1-Dichloropropene	1 U	ug/1
2,2-Dichloropropane	1 U	ug/1
2-Hexanone	1 U	ug/1
Ethane, 1,1,1,2-Tetrac+	1 U	ug/1
Total Xylenes	1 U	ug/1
cis-1,3-Dichloropropene	1 U	ug/1
trans-1,3-Dichloroprop+	1 U	ug/1
p-Bromofluorobenzene	93	% Recov
Surrog: 1-Bromo-2-Fluo+	100	% Recov
d8-Toluene	99	% Recov
d4-1,2-Dichloroethane	9 4	7 Recov



(Sample Complete)

Units -----+ ug/1 % Recov % Recov % Recov % Recov

Project: TEC-512C COLBERT LANDFILL

Laboratory: EPA, Manchester

Sample No: 91 122002

1,3,5-Trimethylbenzene

Description: EFFLUENT 3

Source: Well (Test/Observation)

Begin Date: 91/03/20 09:45

VOA - PP Scan (GCMS)	Water-T Result	Units	VOA - PP Scan (GCMS) *** Continued		
Carbon Tetrachloride	1 U	ug/1		Result	Unit
Acetone	1 U	ug/1	Bromobenzene	1 U	ug/1
Chloroform	1 U	ug/1	Toluene	1 U	
Benzene	1 U	ug/1	Chlorobenzene	1 U	
1,1,1-Trichloroethane	1 U	ug/1	1,2,4-Trichlorobenzene	1 U	ug/1
Bromomethane	1 U	ug/1	Dibromochloromethane	1 U	ug/1
Chloromethane	1 U	ug/1	Tetrachloroethene	10	
Dibromomethane	1 U	ug/1	Sec-Butylbenzene	1 U	ug/1
Bromochloromethane	1 U	ug/1	1,3-Dichloropropane	10	
Chloroethane	1 U	ug/1	Cis-1,2-Dichlorosthene	iŭ	
Vinyl Chloride	1 U	ug/1	trans-1,2-Dichloroethe+	îÜ	
Methylene Chloride	3 U	ug/1	1,3-Dichlorobenzene	1 U	6.0
Carbon Disulfide	10	ug/1	1,1-Dichloropropene	iŭ	
Bromoform	1 U	ug/1	2,2-Dichloropropane	iU	
Bromodichloromethane	1 U	ug/1	2-Hexanone	1 U	ug/1
1,1-Dichloroethane	1 U	ug/1	Ethane, 1,1,1,2-Tetrac+	1 U	ug/1
1,1-Dichloroethene	1 U	ug/1	Total Xylenes	1 U	ug/1
Trichlorofluoromethane	1 U	ug/1	cis-1,3-Dichloropropene	1 U	
Methane, Dichlorodiflu+	1 U	ug/l	trans-1,3-Dichloroprop+	1 U	0.
1,2-Dichloropropane	1 U	ug/1	p-Bromofluorobenzene	94	0
2-Butanone	1 U	ug/1	Surrog: 1-Bromo-2-Fluo+	103	% Re
1,1,2-Trichloroethane	1 U	ug/1	d8-Toluene	100	% Re
Trichloroethene	1 U	ug/1	d4-1,2-Dichloroethane	9.5	7 Re
ETHANE, 1,1,2,2-TETRAC+	1 U	ug/1		,,,	A NE
1,2,3-Trichlorobenzene	1 U	ug/1			
Hexachlorobutadiene	1 U	ug/1			
Naphthalene	1 U	ug/1			
2-Chlorotoluene	1 U	ug/1		95	
1,2-Dichlorobenzene	1 U	ug/1			
1,2,4-Trimethylbenzene	1 U	ug/1			
DBCP	1 U	ug/1		-	
1,2,3-Trichloropropane	1 U	ug/1		A)
Tert-Butylbenzene	1 U	ug/1		-//	Z/
Isopropylbenzene (Cume+	1 U	ug/1		(1)	2
p-Isopropyltoluene	1 U	ug/1			1.19
BENZENE, ETHYL-	1 U	ug/1		5	11
BENZENE, ETHENYL-(STYR+	1 U	ug/1			5.0
BENZENE, PROPYL-	1 U	ug/1			
Butylbenzene	1 U	ug/1			
4-Chlorotoluene	1 U	ug/1			
1,4-Dichlorobenzene	1 U	ug/1			
1,2-Dibromoethane (EDB)	10	ug/l			
1,2-Dichloroethane	iŭ	ug/1			
4-Methy1-2-Pentanone	1 U	ug/l			
1.3.5-Trimethylbenzens					

1U ug/1 10 ug/1



(Sample Complete)

Project: TEC-512C COLBERT LANDFILL

Officer: NET

Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122003

Description: EFFLUENT 4

Begin Date: 91/03/20 08:30

Source: Well (Test/Observation)

VOA - PP Scan (GCMS)	Water-T Result	W. C. S. S.	VOA - PP Scan (GCMS) *** Continued		i	VOA - PP Scan (GCMS) *** Continued	Water-T	otal H
Carbon Tetrachloride	10	ug/1		Result	Units	Matrix Spike #1	Result	Units
Acetone	130	ug/1	Bromobenzene			***************************************		
Chloroform	1 0	ug/1	Toluene	1 U	ug/1	Trichlorofluoromethane	127	% Recov
Benzene	10	ug/1	2. 2. 31 (1 n n n n n n	1 U	ug/1	Methane, Dichlorodiflu+	145	Z Recov
1,1,1-Trichloroethane	10		Chlorobenzene	1 U	ug/l	1,2-Dichloropropane	92	% Recov
Bromomethane	1 0	ug/1	1,2,4-Trichlorobenzene	1 U	ug/1	2-Butanone	NAR	% Recov
Chloromethane	10	ug/1	Dibromochloromethane	1 U	ug/1	1,1,2-Trichlorosthans	83	% Recov
Dibromomethane	10	ug/1	Tetrachloroethene	1 U	ug/1	Trichloroethene	100	% Recov
Bromochloromethane	5000	ug/1	Sec-Butylbenzene	1 U	ug/1	ETHANE, 1,1,2,2-TETRAC+	71	% Recov
Chloroethane	1 U	ug/1	1,3-Dichloropropane	1 U	ug/1	1,2,3-Trichlorobenzene	68	% Recov
	1 U	ug/1	Cis-1,2-Dichloroethene	1 U	ug/1	Hexachlorobutadiene	93	% Recov
Vinyl Chloride	1 U	ug/1	trans-1,2-Dichloroethe+	1 U	ug/1	Naphthalene	47	% Recov
dethylene Chloride	1 U	ug/1	1,3-Dichlorobenzene	1 U	ug/1	2-Chlorotoluene	81	% Recov
Carbon Disulfide	1 U	ug/1	1,1-Dichloropropene	1 U	ug/1	1,2-Dichlorobenzene	70	% Recov
Bromoform	1 U	ug/1	2,2-Dichloropropane	1 U	ug/1	1,2,4-Trimethylbenzene	8 2	I Recov
Bromodichloromethane	1 U	ug/1	2-Hexanone	1 U	ug/1	DBCP	8 2	7 Recov
1,1-Dichloroethane	1 U	ug/1	Ethane, 1,1,1,2-Tetrac+	1 U	ug/1	1,2,3-Trichloropropane	7.6	7 Recov
l, 1 - Dichloroethene	1 U	ug/1	Total Xylenes	1 U	ug/1	Tert-Butylbenzene	8 4	7 Recov
richlorofluoromethane	1 U	ug/l	cis-1,3-Dichloropropens	1 U	ug/1	Isopropylbenzene (Cume+	7.0	% Recov
sethane, Dichlorodiflu+	1 U	ug/1	trans-1,3-Dichloroprop+	1 U	ug/1	p-Isopropyltoluene	8 4	7 Recov
,2-Dichloropropane	1 U	ug/1	p-Bromofluorobenzene	9.5	% Recov	BENZENE, ETHYL-	73	7 Recov
2 - Butanone	15 *	ug/1	Surrog: 1-Bromo-2-Fluo+	106	% Recov	BENZENE, ETHENYL-(STYR+	7.4	7 Recov
,1,2-Trichloroethane	1 U	ug/1	d8-Toluene	97	% Recov	BENZENE, PROPYL-	80	7 Recov
richloroethene	1 U	ug/1	d4-1,2-Dichloroethane	9.5	% Recov	Butylbenzene	7.0	7 Recov
THANE, 1,1,2,2-TETRAC+	1 U	ug/1		0.5		4-Chlorotoluene	72	7 Recov
,2,3-Trichlorobenzene	1 U	ug/1	+		+	1,4-Dichlorobenzene	6.5	7 Recov
lexachlorobutadiene	1 U	ug/1	VOA - PP Scan (GCMS)	Water-T	otal I	1,2-Dibromoethane (EDB)	84	7 Recov
aphthalene	1 U	ug/1	Matrix Spike #1	Result		1,2-Dichloroethane	87	17 T T T T T
2-Chlorotoluene	1 U	ug/1	+			4-Methy1-2-Pentanone	77	% Recov
,2-Dichlorobenzene	1 U	ug/1	Carbon Tetrachloride	101	7 Recov	1,3,5-Trimethylbenzene	7.5	7 Recov
1,2,4-Trimethylbenzene	1 U	ug/1	Acetone	NAR	% Recov	Bromobenzene	79	Z Recov
DBCP	1 U	ug/1	Chloroform	8 4	% Recov	Toluene	81	7 Recov
1,2,3-Trichloropropane	1 U	ug/1	Benzene	92	% Recov	Chlorobenzene	82	Z Recov
ert-Butylbenzene	1 U	ug/1	1,1,1-Trichloroethane	102	Z Recov	1,2,4-Trichlorobenzene	-	7 Recov
Isopropylbenzene (Cume+	1 U	ug/1	Bromomethane	95	Z Recov	1,2,4-Irichlorobenzene	66	Z Recov
-Isopropyltoluene	1 U	ug/1	Chloromethane	105	I Recov	Dibromochloromethane Tetrachloroethene	8.5	% Recov
BENZENE, ETHYL-	1 U	ug/1	Dibromomethane	83	7 Recov	Car Burnitanne	92	% Recov
BENZENE, ETHENYL-(STYR+	1 U	ug/l	Bromochloromethane	92	% Recov	Sec-Butylbenzene	7.5	% Recov
BENZENE, PROPYL-	1 U	ug/1	Chloroethane	111	7 Recov	1,3-Dichloropropane	. 84	Z Recov
utylbenzene	1 U	ug/1	Vinyl Chloride	104		Cis-1,2-Dichloroethene	86	I Recov
-Chlorotoluene	1 U	ug/1	Methylene Chloride	110	Z Recov	trans-1,2-Dichloroethe+	97	Z Recov
,4-Dichlorobenzene	10	ug/1	Carbon Disulfide		7 Recov	1,3-Dichlorobenzene	76	7 Recoy
, 2-Dibromoethane (EDB)	iu	ug/1	Bromoform	104	7 Recov	1,1-Dichloropropene	9 4	7 Recov
, 2-Dichloroethane	10	ug/1	77, 77, 77, 77, 77, 77, 77, 77, 77, 77,	8 4	7 Recov	2,2-Dichloropropane	92	7 Recov
-Methyl-2-Pentanone	1 U	ug/1	Bromodichloromethane	8 5	Z Recov	2-Hexanone	76	I Recov
,3,5-Trimethylbenzene	10		1,1-Dichloroethane	68	% Recov	Ethane, 1,1,1,2-Tetrac+	80	7 Recov
	10	ug/1	1,1-Dichloroethene	111	% Recov	Total Xylenes	7 4	Z Recov

(Continued on next page)



Acetone

Benzene

Chloroform

Bromomethane

Chloroethane

Vinyl Chloride

Bromoform

2-Butanone

Naphthalene

DBCP

Bromochloromethane

Methylene Chloride

Carbon Disulfide

Bromodichloromethane

Methane, Dichlorodiflu+

1.1-Dichloroethane

1.2-Dichloropropane

Trichloroethene

2-Chlorotoluene

1.1.2-Trichloroethane

ETHANE, 1,1,2,2-TETRAC+

1,2,3-Trichlorobenzene

Hexachlorobutadiene

1,2-Dichlorobenzene

Tert-Butylbenzene

BENZENE, ETHYL-

BENZENE, PROPYL-

4-Chlorotoluene

Butylbenzene

p-Isopropyltoluene

1,4-Dichlorobenzene

1,2-Dichloroethane

4-Methyl-2-Pentanone

1,3,5-Trimethylbenzene

1,2,4-Trimethylbenzene

1,2,3-Trichloropropane

Isopropylbenzene (Cume+

BENZENE, ETHENYL-(STYR+

1,2-Dibromosthane (EDB)

1,1-Dichloroethene Trichlorofluoromethane

Chloromethane Dibromomethane

Project: TEC-512C COLBERT LANDFILL

Officer: NET

Source: Well (Test/Observation)

Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122004

VOA - PP Scan (GCMS)

Carbon Tetrachloride

1,1,1-Trichloroethane

Description: EFFLUENT 5

Water-Total Result Units

1U ug/1

1U ug/1

2 * ug/1

0.6J* ug/1

270 * ug/1

1U ug/1 1U ug/1

1U ug/1

1U ug/1

1U ug/1

0.8J* ug/1

520 * ug/1

1U ug/1

12 * ug/1

25 * ug/1

1 * ug/1

1U ug/1

1U ug/1

1U ug/1

15 * ug/1

1U ug/1

1U ug/1

1U ug/1

1U ug/1

1U ug/1

1U ug/1

1U ug/1

10 ug/1

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

0.8J* ug/1

1U ug/1 1U ug/1

Begin Date: 91/03/20 11:05

- +	†		+
	VOA - PP Scan (GCMS)	Water-To	otal
- 1	*** Continued	***	1
- +		Result	Units
	+		+
	Bromobenzene	1 U	ug/l
	Toluene	1 U	ug/1
	Chlorobenzene	1 U	ug/1
	1,2,4-Trichlorobenzene	1 U	ug/1
	Dibromochloromethane	1 U	ug/1
	Tetrachloroethene	0.2J*	ug/1
	Sec-Butylbenzene	1 U	ug/1
	1,3-Dichloropropane	1 U	ug/1
	Cis-1,2-Dichloroethene	6 *	ug/1
	trans-1,2-Dichloroethe+	1 U	ug/1
	1,3-Dichlorobenzene	1 U	ug/1
	1,1-Dichloropropene	1 U	ug/1
	2,2-Dichloropropane	1 U	ug/1
	2-Hexanone	1 U	ug/1
	Ethane, 1,1,1,2-Tetrac+	1 U	ug/1
	Total Xylenes	1 U	ug/1
	cis-1,3-Dichloropropene	10	ug/1
	trans-1,3-Dichloroprop+	1 U	ug/1
	p-Bromofluorobenzene	98	7 Recov
	Surrog: 1-Bromo-2-Fluo+	100	Z Recov
	d8-Toluene	96	% Recov
	d4-1,2-Dichloroethane	90	% Recov
	+		
	Tent Ident - VOA Sca	Water-To	tal
		Result	Units



4.9NJ* ug/1

CHLORINATED UNKNOWN

(Sample Complete)

ecycled paper

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